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ALFATRON ELECTRONICS GmbH GERMANY

# ALF-TPUHD70-T

10.2G HDMI Transmitter



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Version: ALF-TPUHD70-T\_2021V1.4

## FCC Statement

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. It has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a commercial installation.

Operation of this equipment in a residential area is likely to cause interference, in which case the user at their own expense will be required to take whatever measures may be necessary to correct the interference.

Any changes or modifications not expressly approved by the manufacture would void the user's authority to operate the equipment.



Do not dispose of this product with the normal household waste at the end of its life cycle. Return it to a collection point for the recycling of electrical and electronic devices. This is indicated by the symbol on the product, user manual or packaging. The materials are reusable according to their markings. By reusing, recycling, or other forms of utilisation of old devices you make an important contribution to the protection of our environment. Please contact your local authorities for details about collection points.

## Safety Precaution

- Do not dismantle the housing or modify the module to avoid electrical shock or burn.
- Using supplies not meeting the products specifications may cause damage, deterioration, or malfunction.
- Do not expose the unit to rain, moisture or install this product near liquid.
- Install the device in a place with adequate ventilation.
- Do not twist or forcefully pull the ends of the optical cable. It may cause malfunction.
- Do not use liquid or aerosol cleaners to clean this unit.
- Always unplug the power to the device before cleaning.
- Unplug the power when in use for an extended period of time.
- Refer all servicing to qualified service personnel.

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## **Table of Contents**

1. Introduction .....	1
1.1 Product Introduction .....	1
1.2 Features .....	1
1.3 Package Contents .....	1
2. Panel Description.....	2
2.1 TPUHD70-T Transmitter .....	2
3. System Connection.....	3
3.1 Usage Precaution .....	3
3.2 System Diagram .....	3
3.3 Connection Procedure.....	4
3.4 Twisted Pair Cable Connection.....	4
4. Specification .....	5
5. Panel Drawing .....	6
6. Troubleshooting & Maintenance .....	7
7. After sales Service .....	8

# 1. Introduction

## 1.1 Product Introduction

The ALF-TPUHD70-T is a compact HDBaseT transmitter. HDBaseT technology is used to transmit high-resolution 1080p / 4k signal from transmitter to the receiver via a CAT6 cable for distances up to 230 feet (70m) / 131 feet (40m). Moreover, the ALF-TPUHD70-T supports CEC, bi-directional RS232, IR control, and POH function.

## 1.2 Features

- Supports Full HD: 1080p@60Hz/pixels/3D/4Kx2K.
- Maximum transmission distance is 230 feet (70m) for 1080p and 131 feet (40m) for 4Kx2K over single CAT6 cable.
- High Bandwidth: 10.2Gps.
- HDTV Compatible, HDMI 1.4 and HDCP 2.2 compliant.
- Supports CEC / IR / RS232 pass-through.
- Supports bi-directional POH function.
- Bi-directional RS232 / IR control.
- Uses HDBaseT technology.
- LED indicators display real time work status.

## 1.3 Package Contents

- 1 x ALF-TPUHD70-T Transmitter
- 2 x Mounting Ears with 4 Screws
- 4 x Plastic Cushions
- 1 x RS232 Cable
- 1 x Power Adapter (DC 24V 1.25A)
- 1 x User Manual

## 2. Panel Description

### 2.1 TPUHD70-T Transmitter



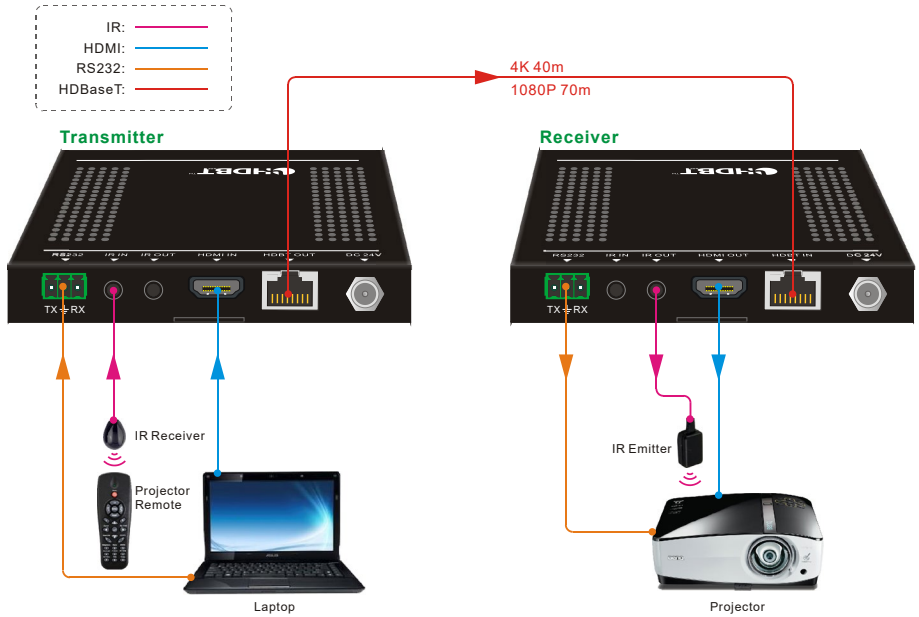
No.	Name	Description
①	LINK	HDBT Link status indicator: <ul style="list-style-type: none"> <li>• OFF: No Link</li> <li>• GREEN: Link Successful</li> <li>• Blinking GREEN: Link abnormal</li> </ul>
②	HDCP	HDCEP compliant indicator <ul style="list-style-type: none"> <li>• OFF: No HDMI traffic (no picture)</li> <li>• GREEN: Traffic with HDCP</li> <li>• Blinking GREEN: Traffic without HDCP</li> </ul>
③	Power	OFF: No power; RED: DC power present.
④	RS232	RS232 connector.
⑤	IR IN	Connect with 5V IR receiver (with carrier) to collect infrared signal, works with far-end IR OUT port.
⑥	IR OUT	Connect with 5V IR emitter to send infrared signal, works with far-end IR IN port.
⑦	HDMI IN	Connect to HDMI source.
⑧	HDBT OUT	Connect to the HDBT IN socket on the Receiver via CAT6 cable, supports bi-directional POH function.
⑨	DC 24V	Connect to a power supply (Not necessary if receiver is connected to a power adaptor).

### 3. System Connection

#### 3.1 Usage Precaution

- System should be installed in a clean environment and has adequate temperature and humidity.
- All of the power switches, plugs, sockets, and power cords should be insulated and safe.
- All devices should be connected before powering on.
- Use shielded straight-through CAT6 cable with TIA/EIA T568B terminations for reliable transmission.

#### 3.2 System Diagram



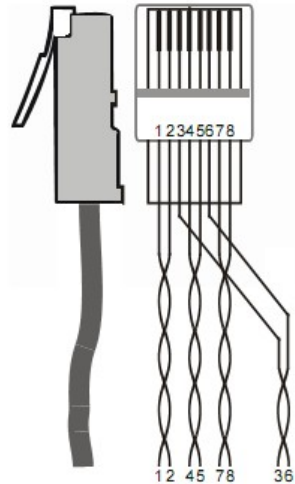
### 3.3 Connection Procedure

- Step 1.** Connect HDMI source (e.g., Blue-ray DVD) to HDMI IN port of transmitter with an HDMI cable.
- Step 2.** Connect HDBT OUT port of transmitter and HDBT IN port of receiver, via a single CAT6 cable.
- Step 3.** Connect HDMI display (e.g., HDTV) to HDMI OUT port of receiver with an HDMI cable.
- Step 4.** Both transmitter and receiver have IR IN and OUT. When one end is used as an IR receiver, the signal sent from the end can only be transmitted via the other end.  
**For example:** When "IR IN" of transmitter connects with an IR receiver, the IR emitter must connect to IR OUT of Receiver.
- Step 5.** Connect the RS232 port of the devices to be controlled and the receiver or the transmitter.
- Step 6.** Connect with DC24V power adaptor(s) One is enough if Transmitter or Receiver is connected with adapter as its POH function).

### 3.4 Twisted Pair Cable Connection

The twisted pair used in this extender MUST be a straight-through cable.

TIA/EIA T568A		TIA/EIA T568B	
Pin	Cable color	Pin	Cable color
1	green white	1	orange white
2	green	2	orange
3	orange white	3	green white
4	blue	4	blue
5	blue white	5	blue white
6	orange	6	green
7	brown white	7	brown white
8	brown	8	brown
1st Ground	4--5	1st Ground	4--5
2nd Ground	3--6	2nd Ground	1--2
3rd Group	1--2	3rd Group	3--6
4th Group	7--8	4th Group	7--8



**Note:** RJ-45 connector MUST be metal. The shielded layer of the cable MUST be connected to the RJ-45 connector, to ensure better transmission.

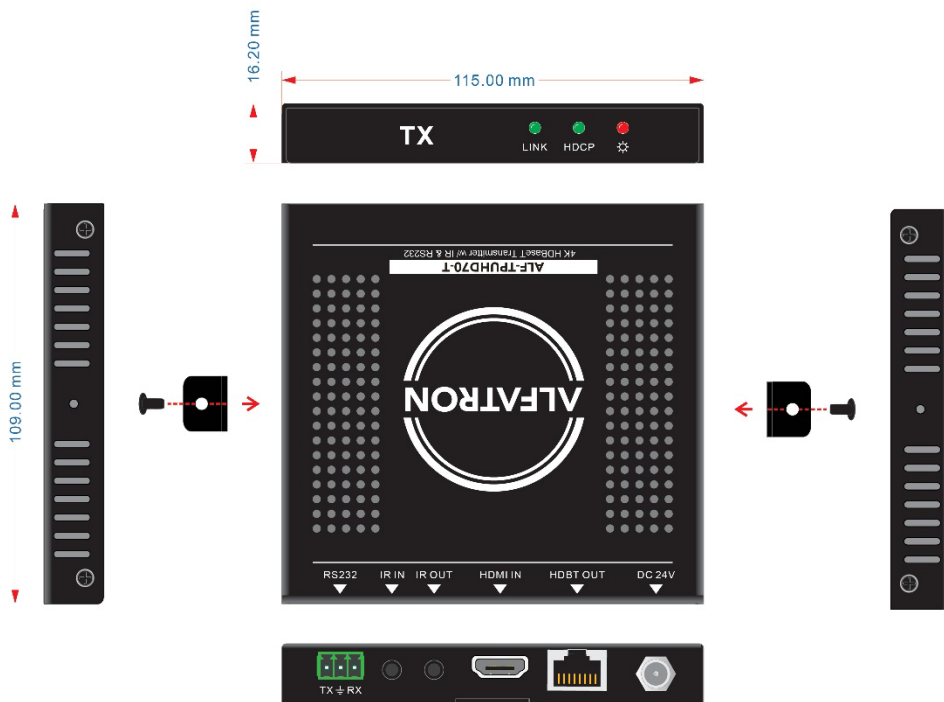


## 4. Specification

<b>ALF-TPUHD70-T Transmitter</b>	
Input	(1) HDMI; (1) IR; (1) RS232
Input Connector	(1) Female HDMI; (1) 3.5mm mini jack; (1) 3p captive screw connector
Audio	Digital audio, transmit through HDMI audio
Output	(1) HDBaseT (1) IR; (1) RS232
Output Connector	(1) RJ-45; (1) 3.5mm mini jack; (1) 3p captive screw connector
<b>General</b>	
Resolution Range	640x480@60Hz~4K×2K@30Hz
Transmission Mode	HDBaseT
Transmission Distance	1080p ≤ 70m; 4Kx2K ≤ 40m
Bandwidth	10.2Gbps
HDMI Standard	Supports HDMI1.4 and HDCP 2.2
Impedance	75Ω
Temperature	0~ 50℃
Humidity	10% ~ 90%
Power Supply	Input: 100VAC~240VAC, 50/60Hz; Output: DC 24V, 1.25A
Power Consumption	14W
Dimension (W*H*D)	115mm x 16.2mm x 109mm
Net Weight	Transmitter: 193g;

**Note:** All nominal levels are at ±10%.

### 5. Panel Drawing



5-1 Transmitter

## 6. Troubleshooting & Maintenance

### No image on display:

- Ensure that the display device has been set to the correct input.
- Ensure that the HDMI cables used for both the source and transmitter and the receiver and display are properly connected and are of high quality. Test the HDMI cables directly from a source to display and ensure their picture quality.
- Ensure that the CAT6 cable has not been damaged and that it has been terminated correctly with T568B on both ends. A temporary length of CAT6 can be used for testing to ensure that the devices are all compatible and working correctly.
- Ensure proper grounding of the power supply.
- Older compatibility devices (HDMI 1.2) may result in HDBaseT transmission issues.

### Color loss or poor picture quality:

- Ensure that the HDMI cables used for both the source and transmitter and the receiver and display are properly connected and are of high quality. Test the HDMI cables directly from a source to display and ensure their picture quality.
- Ensure proper grounding of the power supply.
- If the static becomes stronger or picture quality becomes worse when connecting the video connectors, it could be caused by improper grounding.
- Inspect the grounding and make sure all the components are properly grounded to a common ground. Improper grounding may cause damage to the receiver.

If your issue persists after following the above troubleshooting steps, seek further help from authorized dealer or our technical support.

## 7. After sales Service

Should you experience problems using the ALF-TPUHD70-T, please note that any transport costs of the equipment to the distributor are borne by the user during the warranty.

- 1) Product Limited Warranty: Alfatron warrants that its products will be free from defects in materials and workmanship for seven years, which starts from the first day of purchase. Proof of purchase in the form of a bill of sale or receipted invoice which is evidence that the unit is within the warranty period must be presented to obtain warranty service.
  
- 2) What the warranty does not cover (servicing available for a fee):
  - Warranty expiration.
  - Factory applied serial number has been altered or removed from the product.
  - Damage, deterioration, or malfunction caused by:
    - Normal wear and tear.
    - Use of supplies or parts not meeting product specifications.
    - No certificate or invoice as the proof of warranty.
    - The product model showed on the warranty card does not match with the product or if the product had been altered.
  - Damage caused by force majeure.
  - Servicing not authorized by Alfatron.
  - Any other causes which do not relate to a product defect.
  - Delivery, installation or labour charges for installation or setup of the product.
  
- 3) Technical Support: Contact our after-sales department at [www.alfatronelectronics.com](http://www.alfatronelectronics.com)

## Warranty

Limited warranty in respect of Alfatron Products Only

1.1 This limited warranty covers defects in materials and workmanship in this product.

1.2 Should warranty service be required, proof of purchase must be presented to the Company. The serial number on the product must be clearly visible and not have been tampered with in any way whatsoever.

1.3 This limited warranty does not cover any damage, deterioration or malfunction resulting from any alteration, modification, improper or unreasonable use or maintenance, misuse, abuse, accident, neglect, exposure to excess moisture, fire, improper packing and shipping (such claims must be presented to the carrier), lightning, power surges, or other acts of nature. This limited warranty does not cover any damage, deterioration or malfunction resulting from the installation or removal of this product from any installation, any unauthorized tampering with this product, any repairs attempted by anyone unauthorized by the Company to make such repairs, or any other cause which does not relate directly to a defect in materials and/or workmanship of this product. This limited warranty does not cover equipment enclosures, cables or accessories used in conjunction with this product.

This limited warranty does not cover the cost of normal maintenance. Failure of the product due to insufficient or improper maintenance is not covered.

1.4 The Company does not warrant that the product covered hereby, including, without limitation, the technology and/or integrated circuit(s) included in the product, will not become obsolete or that such items are or will remain compatible with any other product or technology with which the product may be used.

1.5 Only the original purchaser of this product is covered under this limited warranty. This limited warranty is not transferable to subsequent purchasers or owners of this product.

1.6 Unless otherwise specified, the goods are warranted in accordance with the manufacturer's product specific warranties against any defect attributable to faulty workmanship or materials, fair wear and tear being excluded.

1.7 This limited warranty only covers the cost of faulty goods and does not include the cost of labor and travel to return the goods to the Company's premises.

1.8 In the event of any improper maintenance, repair or service being carried out by any third persons during the warranty period without the Company's written authorization, the limited warranty shall be void.

1.9 A 7 (seven) year limited warranty is given on the aforesaid product where used

correctly according to the Company's instructions, and only with the use of the Company's components.

1.10 The Company will, at its sole option, provide one of the following three remedies to whatever extent it shall deem necessary to satisfy a proper claim under this limited warranty:

1.10.1 Elect to repair or facilitate the repair of any defective parts within a reasonable period of time, free of any charge for the necessary parts and labor to complete the repair and restore this product to its proper operating condition.; or

1.10.2 Replace this product with a direct replacement or with a similar product deemed by the Company to perform substantially the same function as the original product; or

1.10.3 Issue a refund of the original purchase price less depreciation to be determined based on the age of the product at the time remedy is sought under this limited warranty.

1.11 The Company is not obligated to provide the Customer with a substitute unit during the limited warranty period or at any time thereafter.

1.12 If this product is returned to the Company this product must be insured during shipment, with the insurance and shipping charges prepaid by the Customer. If this product is returned uninsured, the Customer assumes all risks of loss or damage during shipment. The Company will not be responsible for any costs related to the removal or reinstallation of this product from or into any installation. The Company will not be responsible for any costs related to any setting up this product, any adjustment of user controls or any programming required for a specific installation of this product.

1.13 Please be aware that the Company's products and components have not been tested with competitor's products and therefore the Company cannot warrant products and/or components used in conjunction with competitor's products.

1.14 The appropriateness of the goods for the purpose intended is only warranted to the extent that the goods are used in accordance with the Company's installation, classification and usage instructions.

1.15 Any claim by the Customer which is based on any defect in the quality or condition of the goods or their failure to correspond with specification shall be notified in writing to the Company within 7 days of delivery or (where the defect or failure was not apparent on reasonable inspection by the Customer) within a reasonable time after discovery of the defect or failure, but, in any event, within 6 months of delivery.

1.16 If delivery is not refused, and the Customer does not notify the Company accordingly, the Customer may not reject the goods and the Company shall have no liability and the Customer shall pay the price as if the goods had been delivered in accordance with the Agreement.

1.17 THE MAXIMUM LIABILITY OF THE COMPANY UNDER THIS LIMITED WARRANTY SHALL NOT EXCEED THE ACTUAL PURCHASE PRICE PAID FOR THE PRODUCT.